

**Appendix A: Full membership list for the LA classification**

<i>Authority Name</i>	<i>Family</i>	<i>Group</i>	<i>Class</i>	<i>Authority Name</i>	<i>Family</i>	<i>Group</i>	<i>Class</i>
Aberdeen City UA	A	A3	A3b	Maidstone LA	C	C2	C2a
Aberdeenshire UA	B	B1	B1a	Maldon LA	B	B1	B1c
Adur LA	B	B2	B2b	Malvern Hills LA	B	B1	B1b
Allerdale LA	B	B2	B2b	Manchester LA	A	A2	A2b
Alnwick LA	B	B1	B1a	Mansfield LA	A	A1	A1a
Amber Valley LA	B	B3	B3a	Medway UA	B	B3	B3b
Angus UA	B	B1	B1a	Melton LA	B	B1	B1c
Antrim	E	E1	E1a	Mendip LA	B	B1	B1b
Ards	E	E1	E1a	Merthyr Tydfil UA	A	A1	A1a
Argyll and Bute UA	B	B1	B1a	Merton LB	C	C1	C1b
Armagh	E	E1	E1b	Mid Bedfordshire LA	C	C2	C2a
Arun LA	B	B2	B2c	Mid Devon LA	B	B1	B1b
Ashfield LA	A	A1	A1a	Mid Suffolk LA	B	B1	B1c
Ashford LA	B	B1	B1c	Mid Sussex LA	C	C2	C2a
Aylesbury Vale LA	C	C2	C2a	Middlesbrough UA	A	A2	A2a
Babergh LA	B	B1	B1c	Midlothian UA	B	B3	B3b
Ballymena	E	E1	E1a	Milton Keynes UA	C	C1	C1b
Ballymoney	E	E1	E1b	Mole Valley LA	C	C2	C2a
Banbridge	E	E1	E1a	Monmouthshire UA	B	B1	B1b
Barking and Dagenham LB	A	A2	A2a	Moray UA	B	B1	B1a
Barnet LB	D	D1	D1a	Moyle	E	E1	E1b
Barnsley LA	A	A1	A1a	Neath Port Talbot UA	A	A1	A1a
Barrow-in-Furness LA	A	A1	A1a	New Forest LA	B	B1	B1b
Basildon LA	B	B3	B3b	Newark and Sherwood LA	B	B3	B3a
Basingstoke and Deane LA	C	C2	C2a	Newcastle-under-Lyme LA	B	B3	B3a
Bassetlaw LA	B	B3	B3a	Newcastle upon Tyne LA	A	A2	A2b
Bath and North East Somerset UA	C	C1	C1a	Newham LB	D	D3	D3b
Bedford LA	C	C1	C1a	Newport UA	A	A1	A1a
Belfast	A	A2	A2a	Newry and Mourne	E	E1	E1b
Berwick-upon-Tweed LA	B	B1	B1a	Newtownabby	E	E1	E1a
Bexley LB	B	B3	B3a	North Ayrshire UA	A	A2	A2d
Birmingham LA	A	A2	A2c	North Cornwall LA	B	B2	B2b
Blaby LA	B	B1	B1c	North Devon LA	B	B2	B2b
Blackburn with Darwen UA	A	A2	A2c	North Dorset LA	B	B1	B1b
Blackpool UA	B	B2	B2a	North Down	B	B3	B3a
Blaenau Gwent UA	A	A1	A1a	North East Derbyshire LA	B	B3	B3a
Blyth Valley LA	A	A1	A1a	North East Lincolnshire UA	A	A1	A1a
Bolsover LA	A	A1	A1a	North Hertfordshire LA	C	C2	C2a
Bolton LA	A	A2	A2c	North Kesteven LA	B	B1	B1c
Boston LA	B	B1	B1b	North Lanarkshire UA	A	A2	A2d
Bournemouth UA	B	B2	B2a	North Lincolnshire UA	B	B3	B3a
Bracknell Forest UA	C	C1	C1b	North Norfolk LA	B	B2	B2c
Bradford LA	A	A2	A2c	North Shropshire LA	B	B1	B1b
Braintree LA	B	B1	B1c	North Somerset UA	B	B1	B1c
Breckland LA	B	B1	B1b	North Tyneside LA	A	A1	A1a
Brent LB	D	D3	D3b	North Warwickshire LA	B	B3	B3a
Brentwood LA	C	C2	C2a	North West Leicestershire LA	B	B3	B3a
Bridgend UA	A	A1	A1a	North Wiltshire LA	C	C2	C2a
Bridgnorth LA	B	B1	B1c	Northampton LA	B	B3	B3b
Brighton and Hove UA	A	A3	A3b	Norwich LA	A	A2	A2b
Bristol, City of UA	A	A3	A3a	Nottingham UA	A	A2	A2b
Broadland LA	B	B1	B1c	Nuneaton and Bedworth LA	B	B3	B3a
Bromley LB	C	C2	C2a	Oadby and Wigston LA	C	C1	C1a
Bromsgrove LA	B	B1	B1c	Oldham LA	A	A2	A2c
Broxbourne LA	B	B3	B3b	Omagh	E	E1	E1b
Broxtowe LA	B	B3	B3a	Orkney Islands UA	B	B1	B1a
Burnley LA	A	A2	A2c	Oswestry LA	B	B1	B1b
Bury LA	B	B3	B3b	Oxford LA	A	A3	A3b
Caerphilly UA	A	A1	A1a	Pembrokeshire UA	B	B2	B2b

<i>Authority Name</i>	<i>Family</i>	<i>Group</i>	<i>Class</i>	<i>Authority Name</i>	<i>Family</i>	<i>Group</i>	<i>Class</i>
Calderdale LA	A	A2	A2c	Pendle LA	A	A2	A2c
Cambridge LA	A	A3	A3b	Penwith LA	B	B2	B2b
Camden LB	D	D2	D2a	Perth and Kinross UA	B	B1	B1a
Cannock Chase LA	B	B3	B3a	Peterborough UA	B	B3	B3b
Canterbury LA	A	A3	A3a	Plymouth UA	A	A3	A3a
Caradon LA	B	B2	B2b	Poole UA	B	B1	B1c
Cardiff UA	A	A3	A3a	Portsmouth UA	A	A3	A3a
Carlisle LA	B	B2	B2b	Powys UA	B	B1	B1a
Carmarthenshire UA	B	B2	B2b	Preston LA	A	A3	A3a
Carrick LA	B	B2	B2b	Purbeck LA	B	B1	B1b
Carrickfergus	E	E1	E1a	Reading UA	C	C1	C1b
Castle Morpeth LA	B	B1	B1b	Redbridge LB	D	D1	D1a
Castle Point LA	B	B1	B1c	Redcar and Cleveland UA	A	A1	A1a
Castlereagh	B	B3	B3a	Redditch LA	B	B3	B3b
Ceredigion UA	A	A3	A3a	Reigate and Banstead LA	C	C2	C2a
Charnwood LA	C	C1	C1a	Renfrewshire UA	A	A2	A2d
Chelmsford LA	C	C2	C2a	Restormel LA	B	B2	B2b
Cheltenham LA	C	C1	C1a	Rhondda, Cynon, Taff UA	A	A1	A1a
Cherwell LA	C	C2	C2a	Ribble Valley LA	B	B1	B1c
Chester LA	C	C1	C1a	Richmond upon Thames LB	C	C1	C1b
Chesterfield LA	A	A1	A1a	Richmondshire LA	B	B1	B1c
Chester-le-Street LA	A	A1	A1a	Rochdale LA	A	A2	A2c
Chichester LA	B	B1	B1b	Rochford LA	B	B1	B1c
Chiltern LA	C	C2	C2a	Rossendale LA	B	B3	B3b
Chorley LA	B	B3	B3a	Rother LA	B	B2	B2c
Christchurch LA	B	B2	B2c	Rotherham LA	A	A1	A1a
City of London LB	D	D2	D2b	Rugby LA	B	B3	B3a
Clackmannanshire UA	A	A2	A2d	Runnymede LA	C	C1	C1a
Colchester LA	C	C1	C1a	Rushcliffe LA	C	C2	C2a
Coleraine	E	E1	E1b	Rushmoor LA	C	C1	C1b
Congleton LA	B	B1	B1c	Rutland UA	B	B1	B1c
Conwy UA	B	B2	B2b	Ryedale LA	B	B1	B1a
Cookstown	E	E1	E1b	Salford LA	A	A2	A2a
Copeland LA	A	A1	A1a	Salisbury LA	B	B1	B1c
Corby LA	B	B3	B3b	Sandwell LA	A	A2	A2a
Cotswold LA	B	B1	B1b	Scarborough LA	B	B2	B2b
Coventry LA	A	A3	A3a	Scottish Borders, The UA	B	B1	B1a
Craigavon	E	E1	E1a	Sedgefield LA	A	A1	A1a
Craven LA	B	B1	B1b	Sedgemoor LA	B	B1	B1b
Crawley LA	B	B3	B3b	Sefton LA	A	A1	A1a
Crewe and Nantwich LA	B	B3	B3a	Selby LA	B	B1	B1c
Croydon LB	D	D1	D1a	Sevenoaks LA	C	C2	C2a
Dacorum LA	C	C2	C2a	Sheffield LA	A	A3	A3a
Darlington UA	A	A1	A1a	Shepway LA	B	B2	B2b
Dartford LA	B	B3	B3b	Shetland Islands UA	B	B1	B1a
Daventry LA	C	C2	C2a	Shrewsbury and Atcham LA	B	B1	B1b
Denbighshire UA	B	B2	B2b	Slough UA	D	D1	D1a
Derby UA	A	A3	A3a	Solihull LA	B	B3	B3a
Derbyshire Dales LA	B	B1	B1b	South Ayrshire UA	A	A1	A1a
Derry	E	E1	E1b	South Bedfordshire LA	C	C2	C2a
Derwentside LA	A	A1	A1a	South Bucks LA	C	C2	C2a
Doncaster LA	A	A1	A1a	South Cambridgeshire LA	C	C2	C2a
Dover LA	B	B2	B2b	South Derbyshire LA	B	B1	B1c
Down	E	E1	E1a	South Gloucestershire UA	C	C2	C2a
Dudley LA	B	B3	B3a	South Hams LA	B	B1	B1a
Dumfries and Galloway UA	B	B2	B2b	South Holland LA	B	B1	B1b
Dundee City UA	A	A2	A2b	South Kesteven LA	B	B1	B1c
Dungannon	E	E1	E1b	South Lakeland LA	B	B1	B1a
Durham LA	A	A3	A3a	South Lanarkshire UA	A	A2	A2d
Ealing LB	D	D1	D1a	South Norfolk LA	B	B1	B1c
Easington LA	A	A1	A1a	South Northamptonshire LA	C	C2	C2a
East Ayrshire UA	A	A2	A2d	South Oxfordshire LA	C	C2	C2a

<i>Authority Name</i>	<i>Family</i>	<i>Group</i>	<i>Class</i>	<i>Authority Name</i>	<i>Family</i>	<i>Group</i>	<i>Class</i>
East Cambridgeshire LA	B	B1	B1c	South Ribble LA	B	B3	B3a
East Devon LA	B	B2	B2c	South Shropshire LA	B	B1	B1a
East Dorset LA	B	B1	B1b	South Somerset LA	B	B1	B1b
East Dunbartonshire UA	B	B3	B3a	South Staffordshire LA	B	B1	B1c
East Hampshire LA	C	C2	C2a	South Tyneside LA	A	A2	A2a
East Hertfordshire LA	C	C2	C2a	Southampton UA	A	A3	A3a
East Lindsey LA	B	B2	B2b	Southend-on-Sea UA	B	B2	B2a
East Lothian UA	B	B3	B3b	Southwark LB	D	D3	D3a
East Northamptonshire LA	B	B1	B1c	Spelthorne LA	C	C2	C2a
East Renfrewshire UA	B	B3	B3a	St. Albans LA	C	C2	C2a
East Riding of Yorkshire UA	B	B1	B1b	St. Edmundsbury LA	B	B1	B1c
East Staffordshire LA	B	B3	B3a	St. Helens LA	A	A1	A1a
Eastbourne LA	B	B2	B2a	Stafford LA	B	B3	B3a
Eastleigh LA	C	C2	C2a	Staffordshire Moorlands LA	B	B1	B1b
Eden LA	B	B1	B1a	Stevenage LA	B	B3	B3b
Edinburgh, City of UA	A	A3	A3b	Stirling UA	C	C1	C1a
Eilean Siar UA	B	B2	B2b	Stockport LA	B	B3	B3a
Ellesmere Port and Neston LA	B	B3	B3a	Stockton-on-Tees UA	A	A1	A1a
Elmbridge LA	C	C2	C2a	Stoke-on-Trent UA	A	A2	A2a
Enfield LB	D	D1	D1a	Strabane	E	E1	E1b
Epping Forest LA	C	C2	C2a	Stratford-upon-Avon LA	C	C2	C2a
Epsom and Ewell LA	C	C2	C2a	Stroud LA	B	B1	B1c
Erewash LA	B	B3	B3a	Suffolk Coastal LA	B	B1	B1b
Exeter LA	A	A3	A3a	Sunderland LA	A	A2	A2a
Falkirk UA	A	A2	A2d	Surrey Heath LA	C	C2	C2a
Fareham LA	B	B1	B1c	Sutton LB	C	C1	C1b
Fenland LA	B	B1	B1b	Swale LA	B	B3	B3b
Fermanagh	E	E1	E1b	Swansea UA	A	A1	A1a
Fife UA	A	A2	A2d	Swindon UA	B	B3	B3b
Flintshire UA	B	B3	B3a	Tameside LA	A	A2	A2c
Forest Heath LA	B	B1	B1c	Tamworth LA	B	B3	B3b
Forest of Dean LA	B	B1	B1b	Tandridge LA	C	C2	C2a
Fylde LA	B	B1	B1b	Taunton Deane LA	B	B1	B1b
Gateshead LA	A	A2	A2a	Teesdale LA	B	B1	B1a
Gedling LA	B	B3	B3a	Teignbridge LA	B	B1	B1b
Glasgow City UA	A	A2	A2b	Telford and Wrekin UA	B	B3	B3b
Gloucester LA	B	B3	B3b	Tending LA	B	B2	B2c
Gosport LA	B	B3	B3b	Test Valley LA	C	C2	C2a
Gravesham LA	B	B3	B3b	Tewkesbury LA	B	B1	B1c
Great Yarmouth LA	B	B2	B2b	Thanet LA	B	B2	B2a
Greenwich LB	D	D1	D1a	Three Rivers LA	C	C2	C2a
Guildford LA	C	C1	C1a	Thurrock UA	B	B3	B3b
Gwynedd UA	B	B2	B2b	Tonbridge and Malling LA	C	C2	C2a
Hackney LB	D	D3	D3a	Torbay UA	B	B2	B2a
Halton UA	A	A1	A1a	Torfaen UA	A	A1	A1a
Hambleton LA	B	B1	B1c	Torridge LA	B	B2	B2b
Hammersmith and Fulham LB	D	D2	D2a	Tower Hamlets LB	D	D3	D3b
Harborough LA	C	C2	C2a	Trafford LA	B	B3	B3a
Haringey LB	D	D3	D3a	Tunbridge Wells LA	B	B1	B1c
Harlow LA	B	B3	B3b	Tynedale LA	B	B1	B1b
Harrogate LA	B	B1	B1c	Uttlesford LA	C	C2	C2a
Harrow LB	D	D1	D1a	Vale of Glamorgan, The UA	B	B3	B3a
Hart LA	C	C2	C2a	Vale of White Horse LA	C	C2	C2a
Hartlepool UA	A	A1	A1a	Vale Royal LA	B	B3	B3a
Hastings LA	B	B2	B2a	Wakefield LA	A	A1	A1a
Havant LA	B	B3	B3a	Walsall LA	A	A2	A2a
Havering LB	B	B3	B3a	Waltham Forest LB	D	D1	D1a
Herefordshire, County of UA	B	B1	B1b	Wandsworth LB	D	D2	D2a
Hertsmere LA	C	C2	C2a	Wansbeck LA	A	A1	A1a
High Peak LA	B	B3	B3a	Warrington UA	B	B3	B3a
Highland UA	B	B1	B1a	Warwick LA	C	C1	C1a
Hillingdon LB	C	C1	C1b	Watford LA	C	C1	C1b
Hinckley and Bosworth LA	B	B3	B3a	Waveney LA	B	B2	B2b

<i>Authority Name</i>	<i>Family</i>	<i>Group</i>	<i>Class</i>	<i>Authority Name</i>	<i>Family</i>	<i>Group</i>	<i>Class</i>
Horsham LA	C	C2	C2a	Waverley LA	C	C2	C2a
Hounslow LB	D	D1	D1a	Wealden LA	B	B1	B1b
Huntingdonshire LA	C	C2	C2a	Wear Valley LA	A	A1	A1a
Hyndburn LA	A	A2	A2c	Wellingborough LA	B	B3	B3b
Inverclyde UA	A	A2	A2d	Welwyn Hatfield LA	C	C1	C1a
Ipswich LA	A	A3	A3a	West Berkshire UA	C	C2	C2a
Isle of Anglesey UA	B	B2	B2b	West Devon LA	B	B1	B1a
Isle of Wight UA	B	B2	B2b	West Dorset LA	B	B2	B2c
Isles of Scilly LA	B	B4	B4a	West Dunbartonshire UA	A	A2	A2d
Islington LB	D	D2	D2a	West Lancashire LA	B	B3	B3a
Kennet LA	B	B1	B1c	West Lindsey LA	B	B1	B1b
Kensington and Chelsea LB	D	D2	D2a	West Lothian UA	B	B3	B3b
Kerrier LA	B	B2	B2b	Welwyn Hatfield LA	C	C1	C1a
Kettering LA	B	B3	B3a	West Somerset LA	B	B2	B2c
King's Lynn and West Norfolk LA	B	B1	B1b	West Wiltshire LA	B	B1	B1c
Kingston upon Hull, City of UA	A	A2	A2a	Westminster LB	D	D2	D2a
Kingston upon Thames LB	C	C1	C1b	Weymouth and Portland LA	B	B2	B2b
Kirklees LA	A	A2	A2c	Wigan LA	A	A1	A1a
Knowsley LA	A	A2	A2a	Welwyn Hatfield LA	C	C1	C1a
Lambeth LB	D	D3	D3a	Winchester LA	C	C2	C2a
Lancaster LA	A	A3	A3a	Windsor and Maidenhead UA	C	C2	C2a
Larne	E	E1	E1a	Wirral LA	A	A1	A1a
Leeds LA	A	A3	A3a	Woking LA	C	C2	C2a
Leicester UA	A	A2	A2c	Wokingham UA	C	C2	C2a
Lewes LA	B	B1	B1b	Wolverhampton LA	A	A2	A2a
Lewisham LB	D	D3	D3a	Worcester LA	B	B3	B3b
Lichfield LA	B	B1	B1c	Worthing LA	B	B2	B2a
Limavady	E	E1	E1b	Wrexham UA	B	B3	B3a
Lincoln LA	A	A3	A3a	Wychavon LA	B	B1	B1c
Lisburn	E	E1	E1a	Wycombe LA	C	C2	C2a
Liverpool LA	A	A2	A2a	Wyre Forest LA	B	B3	B3a
Luton UA	D	D1	D1a	Wyre LA	B	B2	B2b
Macclesfield LA	C	C2	C2a	York UA	C	C1	C1a

**Appendix B: FORTRAN code for Census data extraction program**

```

CHARACTER*40  VARBNAME , OANAME
              CHARACTER*50  FILEIN
              CHARACTER*200  INREC
              CHARACTER*36   VIN
              INTEGER  V1 , V2 , V3
              REAL  DATA(50)

N=0
1000  CONTINUE
      OPEN(UNIT=1, FILE='VARBS.TXT', STATUS='OLD')
      READ(1, '(A40)') VARBNAME
      IF (VARBNAME(1:3).EQ.'XXX') STOP
      READ(1, '(A36)') VIN
      OPEN(UNIT=4, FILE=VIN, STATUS='UNKNOWN')
      READ(1, '(A80)') INREC
      CALL VPROC(INREC, FILEIN, V1, V2, V3)
      VIN=FILEIN(1:36)

KT=0
2001  CONTINUE

      OPEN(UNIT=2, FILE=VIN, STATUS='OLD')
      READ(2, '(A80)') INREC
      WRITE(0, *) INREC
C     READ(*, *)

      DO WHILE (.NOT.EOF(2))
      KT=KT+1
      READ(2, '(A80)') INREC
      CALL CSVREAD(INREC, OANAME, DATA, N)
      IF (V3.EQ.0) OUT=DATA(V1)
      IF (V3.EQ.1) OUT=DATA(V1)*DATA(V2)
      IF (V3.EQ.2) OUT=DATA(V1)*100/(DATA(V2)+0.0001)
      WRITE(4, '(A10,1X,F10.1)') OANAME(2:11), OUT
C     WRITE(4, '(F6.2)') OUT
      IF (KT.EQ.1000) THEN
      WRITE(0, *) VIN
      WRITE(0, '(A40,F10.0)') OANAME, OUT
C     READ(*, *)
      KT=0
      ENDIF
      ENDDO

      CONTINUE
      CLOSE(UNIT=2)

      IF ((VIN(1:1).EQ.'E').AND.(VIN(7:7).EQ.'A')) THEN
      VIN(7:7)='B'
      GOTO 2001
      ELSE IF ((VIN(1:1).EQ.'E').AND.(VIN(7:7).EQ.'B')) THEN
      VIN(7:7)='D'
      GOTO 2001
      ELSE IF ((VIN(1:1).EQ.'E').AND.(VIN(7:7).EQ.'D')) THEN
      VIN(7:7)='E'
      GOTO 2001
      ELSE IF ((VIN(1:1).EQ.'E').AND.(VIN(7:7).EQ.'E')) THEN
      VIN(7:7)='F'
      GOTO 2001
      ELSE IF ((VIN(1:1).EQ.'E').AND.(VIN(7:7).EQ.'F')) THEN
      VIN(7:7)='G'

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      GOTO 2001
    ELSE IF ((VIN(1:1).EQ.'E').AND.(VIN(7:7).EQ.'G')) THEN
      VIN(7:7)='H'
      GOTO 2001
    ELSE IF ((VIN(1:1).EQ.'E').AND.(VIN(7:7).EQ.'H')) THEN
      VIN(7:7)='J'
      GOTO 2001
    ELSE IF ((VIN(1:1).EQ.'E').AND.(VIN(7:7).EQ.'J')) THEN
      VIN(7:7)='K'
      GOTO 2001
    ELSE IF ((VIN(1:1).EQ.'E').AND.(VIN(7:7).EQ.'K')) THEN
      VIN(7:7)='W'
      GOTO 2001
    ELSE IF ((VIN(1:1).EQ.'E').AND.(VIN(7:7).EQ.'W')) THEN
      CONTINUE
    ENDIF
    READ(1,'(A80)') INREC
    CALL VPROC(INREC,FILEIN,V1,V2,V3)
    VIN=FILEIN(1:36)
    OPEN(UNIT=2,FILE=VIN,STATUS='OLD')
    DO KL=1,4
      READ(2,'(A80)') INREC
      WRITE(0,*) INREC
    C   READ(*,*)
      ENDDO
      KT=0
      DO WHILE (.NOT.EOF(2))
        KT=KT+1
        READ(2,'(A200)') INREC
        IF (INREC(11:11).NE.',') CYCLE
        N=V1
        CALL SCOREAD(INREC,OANAME,DATA,N)
    C   CALL CSVREAD(INREC,OANAME,DATA,N)

        IF (V3.EQ.0) OUT=DATA(V1)
        IF (V3.EQ.1) OUT=DATA(V1)*DATA(V2)/100
        IF (V3.EQ.2) OUT=DATA(V1)*100/(DATA(V2)+0.0001)
          IF (KT.EQ.1000) THEN
            WRITE(0,'(A40,F10.4)') OANAME,OUT
            KT=0
          ENDIF
        WRITE(4,'(A10,1X,F10.1)') OANAME(2:11),OUT
    C   WRITE(4,'(F6.2)') OUT
      ENDDO
1999 CONTINUE
      CLOSE(UNIT=2)

      READ(1,'(A80)') INREC
      CALL VPROC(INREC,FILEIN,V1,V2,V3)
      VIN=FILEIN(1:36)
      OPEN(UNIT=2,FILE=VIN,STATUS='OLD')
      DO KL=1,8
        READ(2,'(A80)') INREC
        WRITE(0,*) INREC
    C   READ(*,*)
      ENDDO
      KT=0
      DO WHILE (.NOT.EOF(2))
        KT=KT+1
        READ(2,'(A200)') INREC
        CALL NIREAD(INREC,OANAME,DATA,N,KNORM)
        IF (KNORM.EQ.0) CYCLE
        IF (V3.EQ.0) OUT=DATA(V1)
        IF (V3.EQ.1) OUT=DATA(V1)*DATA(V2)

```

---

```

        IF (V3.EQ.2) OUT=DATA(V1)*100/(DATA(V2)+0.0001)

        WRITE(4,'(A10,F10.1)') OANAME,OUT
C      WRITE(4,'(F6.2)') OUT
        IF (KT.EQ.1000) THEN
        WRITE(0,'(A40,F10.4)') OANAME,OUT
        KT=0
        ENDIF
        ENDDO

        CLOSE(UNIT=4)

        GOTO 1000

        STOP
        END

        SUBROUTINE VPROC(INREC,FILEIN,M1,M2,M3)

        CHARACTER*200 INREC
        CHARACTER*50 FILEIN

        FILEIN=' '
        N1=1
        N2=N1+1
1000  CONTINUE
        IF (INREC(N2:N2).EQ.',') THEN
            FILEIN=INREC(N1:N2-1)
        ELSE
            N2=N2+1
            GOTO 1000
        ENDIF
        READ(INREC(N2+1:N2+3),'(I3)') M1
        READ(INREC(N2+5:N2+7),'(I3)') M2
        READ(INREC(N2+9:N2+11),'(I3)') M3

        WRITE(0,*) FILEIN
        WRITE(0,*) M1,M2,M3

C      READ(*,*)

        RETURN
        END

        SUBROUTINE CSVREAD(INREC,OANAME,DATA,N)

        REAL DATA(50)
        CHARACTER*200 INREC
        CHARACTER*40 OANAME

        N1=1
        N2=N1+1

1000  CONTINUE
        IF (INREC(N2:N2).EQ.',') THEN
            OANAME=INREC(N1:N2-1)
        ELSE
            N2=N2+1
            GOTO 1000
        ENDIF

C      WRITE(0,*) OANAME

        N=0

```

---

```

      N1=N2+1
      N2=N1
1010 CONTINUE
      N2=N2+1
      IF ( (INREC(N2:N2).EQ.' , ' ) .OR. ( INREC(N2:N2).EQ.' ' ) ) THEN
        N=N+1
        ILEN=N2-N1
        IF ( ILEN.EQ.1 ) READ(INREC(N1:N2-1), '(F1.0)') DATA(N)
        IF ( ILEN.EQ.2 ) READ(INREC(N1:N2-1), '(F2.0)') DATA(N)
        IF ( ILEN.EQ.3 ) READ(INREC(N1:N2-1), '(F3.0)') DATA(N)
        IF ( ILEN.EQ.4 ) READ(INREC(N1:N2-1), '(F4.0)') DATA(N)

C      WRITE(0,*) N,DATA(N)
      N1=N2+1
      ENDIF
      IF (INREC(N2:N2).EQ.' ' ) RETURN
      GOTO 1010

      STOP
      END

      SUBROUTINE SCOREAD(INREC, OANAME, DATA, N)

      REAL DATA(50)
      CHARACTER*200 INREC
      CHARACTER*40 OANAME

      N1=1
      N2=N1+1

1000 CONTINUE
      IF (INREC(N2:N2).EQ.' , ' ) THEN
        OANAME=INREC(N1:N2-1)
      ELSE
        N2=N2+1
        GOTO 1000
      ENDIF

C      WRITE(0,*) OANAME

      N1=N2+1
      N2=N1
1010 CONTINUE

      DO MM=N2,200
        IF (INREC(MM:MM).EQ.' ' ) THEN
          ILEN=MM-1
          EXIT
        ENDIF
      ENDDO
      OPEN(UNIT=3, FILE='TSCR.TXT', STATUS='UNKNOWN')
      WRITE(3,*) INREC(N2:ILEN)
      CLOSE(UNIT=3)
      OPEN(UNIT=3, FILE='TSCR.TXT', STATUS='UNKNOWN')
      READ(3,*) (DATA(L), L=1, N)
      CLOSE(UNIT=3)
      RETURN

      STOP
      END

      SUBROUTINE NIREAD(INREC, OANAME, DATA, N, KW)

      REAL DATA(50)
      CHARACTER*200 INREC

```

---

```
CHARACTER*40 OANAME

N1=1
N2=N1+1

KW=0

1000 CONTINUE
IF (INREC(N2:N2).EQ.',') THEN
  IF (N2.EQ.23) THEN
    OANAME=INREC(13:22)
    KW=1
  ENDIF
ELSE
  N2=N2+1
  GOTO 1000
ENDIF

IF (KW.NE.1) RETURN

C   WRITE(0,*) OANAME
C   READ(*,*)

N=0
N1=N2+1
N2=N1
1010 CONTINUE
N2=N2+1
IF ((INREC(N2:N2).EQ.',').OR.(INREC(N2:N2).EQ.' ')) THEN
  N=N+1
  IF (INREC(N1:N2-1).EQ.'-') THEN
    DATA(N)=0
  ELSE
    OPEN(UNIT=3,FILE='TSCR.TXT',STATUS='UNKNOWN')
    WRITE(3,*) INREC(N1:N2-1)
    CLOSE(UNIT=3)
    OPEN(UNIT=3,FILE='TSCR.TXT',STATUS='UNKNOWN')
    READ(3,*) DATA(N)
    CLOSE(UNIT=3)
  C   WRITE(0,*) N,DATA(N)
  C   READ(*,*)
  ENDIF
  N1=N2+1
ENDIF
IF (INREC(N2:N2).EQ.' ') RETURN
GOTO 1010

STOP
END
```

---

**Appendix C: Consultation exercise documents**

## The ONS/University of Leeds, OA Geodemographic Classification

Dear All

We are currently completing the National Area Classification of Census Output areas in collaboration with the Office for National Statistics. The project is now entering a consultation phase which we would be very pleased if you would agree to take part in. This involves little effort on your part and should be both interesting and enjoyable. All we need from you is a postcode of an area which you know well. You will then be sent a map centred on this postcode. Your task will then be to match the geodemographic classes shown on the map to the information on the accompanying sheet of information.

If you are willing and able to take part in this exercise could you please e-mail your selected postcode to [d.vickers@geog.leeds.ac.uk](mailto:d.vickers@geog.leeds.ac.uk)

Also if you have any other questions or queries don't hesitate to get in touch.

Many Thanks for your time and help,

Best Wishes, Daniel Vickers & Phil Rees

Dear ??????

Many thanks for agreeing to take part in the consultation exercise your help is much appreciated.

Please find attached your personalised map and other files you need to complete the exercise.

If you have any problems map in the wrong place etc. please don't hesitate to get in touch.

To start the exercise, open the file called Start\_Here.pdf

You will need adobe acrobat reader to view some of the files. If you do not have it installed on your computer you can download it for free from:

<http://www.adobe.co.uk/products/acrobat/readstep2.html>

Once again, many thanks and good luck.

Daniel Vickers & Phil Rees

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## Answer Sheet

Name:

Affiliation:

Group	Write Answer Below (number 1-7)
A	
B	
C	
D	
E	
F	
G	

Additional Comments:

**Group 1: City Centre Melting Pot** – This group is characterised by a young single population of which the majority live in flats

**Group 2: Typical Traits** – This group is characterised by its averageness, most people live in semis and or terraced housing and its population is distinctly middle aged.

**Group 3: Inner City Multi Cultural Blend** - This group is characterised by it's high proportion of non white ethnicity, with almost 40% of it's population being made up of people of black, Asian and mixed ethnicity. Housing is mainly terraced and flats.

**Group 4: Blue Collar Communities** – This group is characterised by almost all terraced and semi detached housing, and employment in routine and semi-routine employment.

**Group 5: Idyllic Countryside** – This group is characterised by a low population density, high car ownership, detached housing, an older middle age population and the presence of agricultural employment.

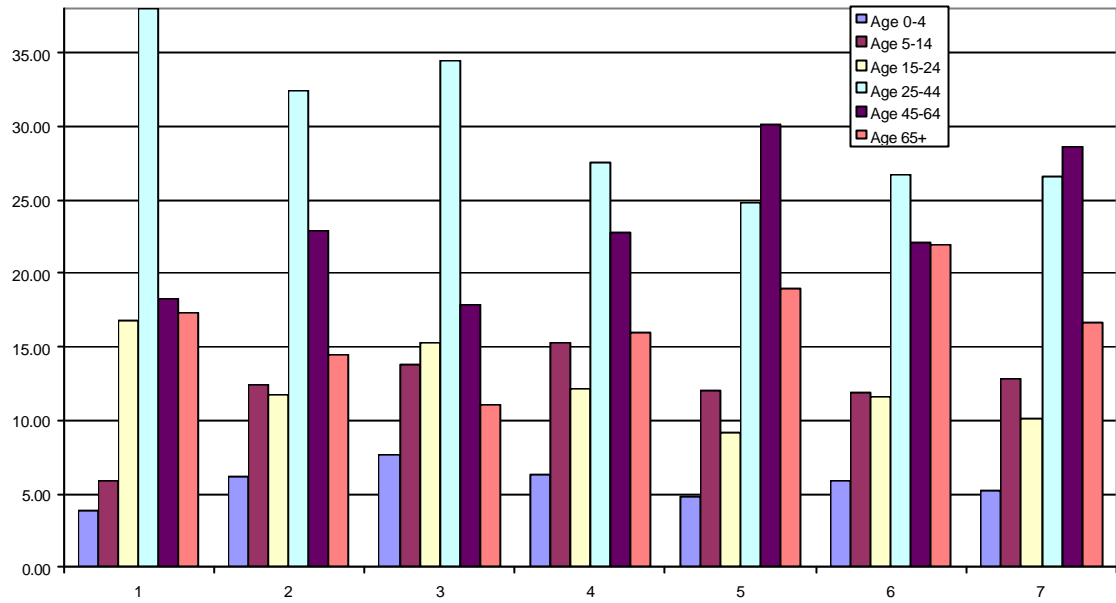
**Group 6: Constraints of Circumstance** – This group is characterised by an aged population, poor health, housing mainly in flat but with some terraces and semis, nearly 50% of homes are council rented, very low car ownership and an unemployment rate that is double the national average.

**Group 7: Comfortable Suburban Estates** – This group is characterised by, Married white couples with children, low unemployment, managerial and professional employment. Detached and semi – detached housing and many 2+ car households.

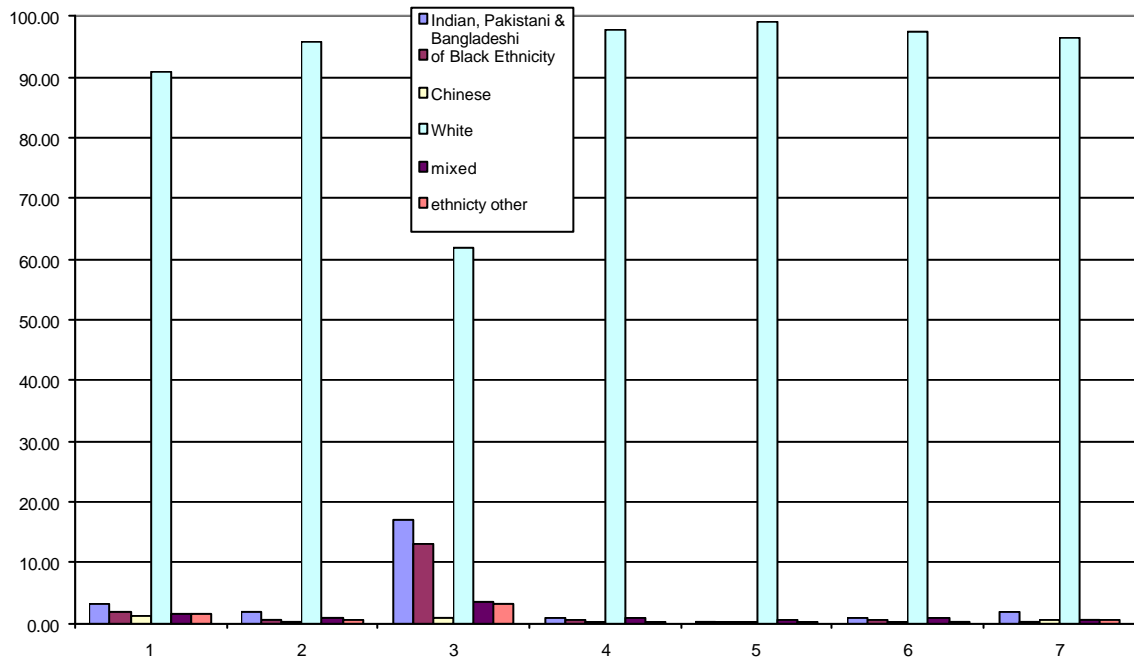
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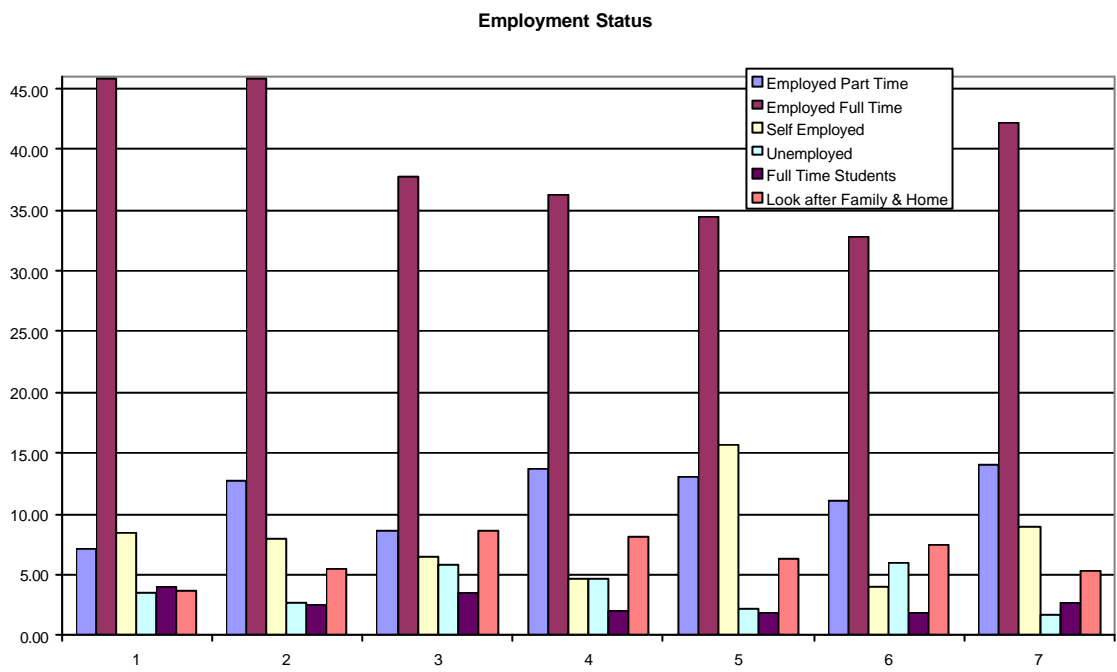
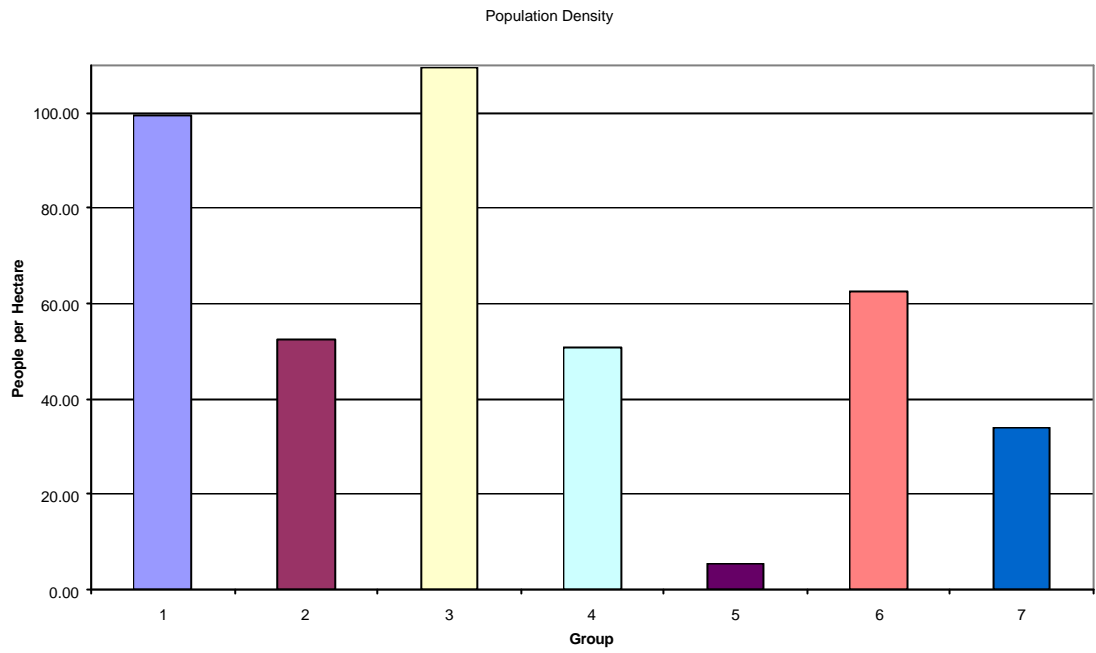
1	City Centre Melting Pot
2	Typical Traits
3	Inner City Multicultural Blend
4	Blue Collar Communities
5	Idyllic Countryside
6	Constraints of Circumstance
7	Comfortable Suburban Estates

AGE

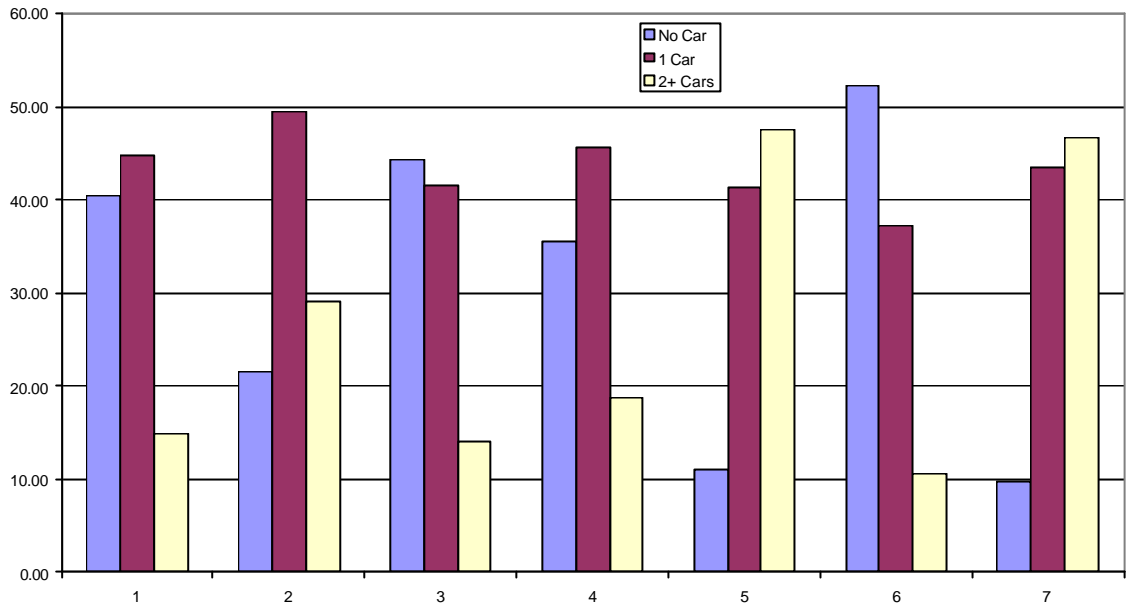


Ethnicity

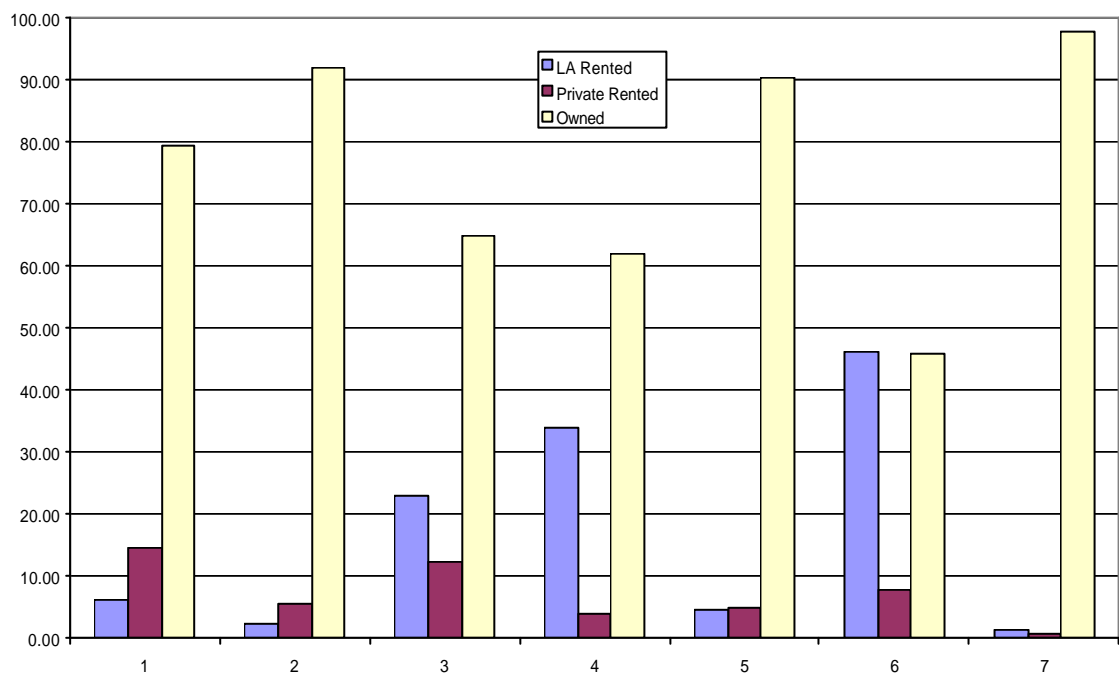


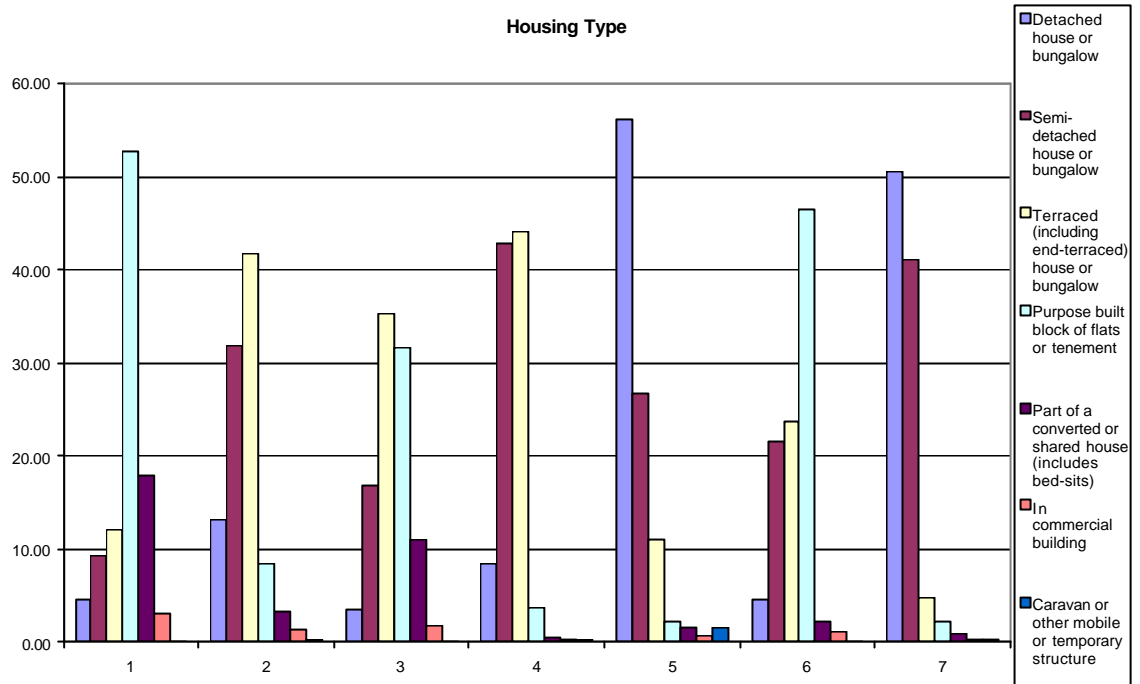


Cars



Tenure





Dear ????

Many Thanks for taking part in the ONS/University of Leeds, OA Geodemographic Classification consultation exercise. We felt it was important that as much of the country as possible was evaluated as possible. Given the limited geographic spread of the people involved in the project, we thought that colleagues in the academic and local and national government communities we be of great value to the project. Your help is very much appreciated.

We have very much enjoyed reading some of your interesting and valuable comments all of which have been taken on board.

Many of you have requested to see the solution, which we have attached to the e-mail. Feel free to get in touch if you want to know anything further about the project.

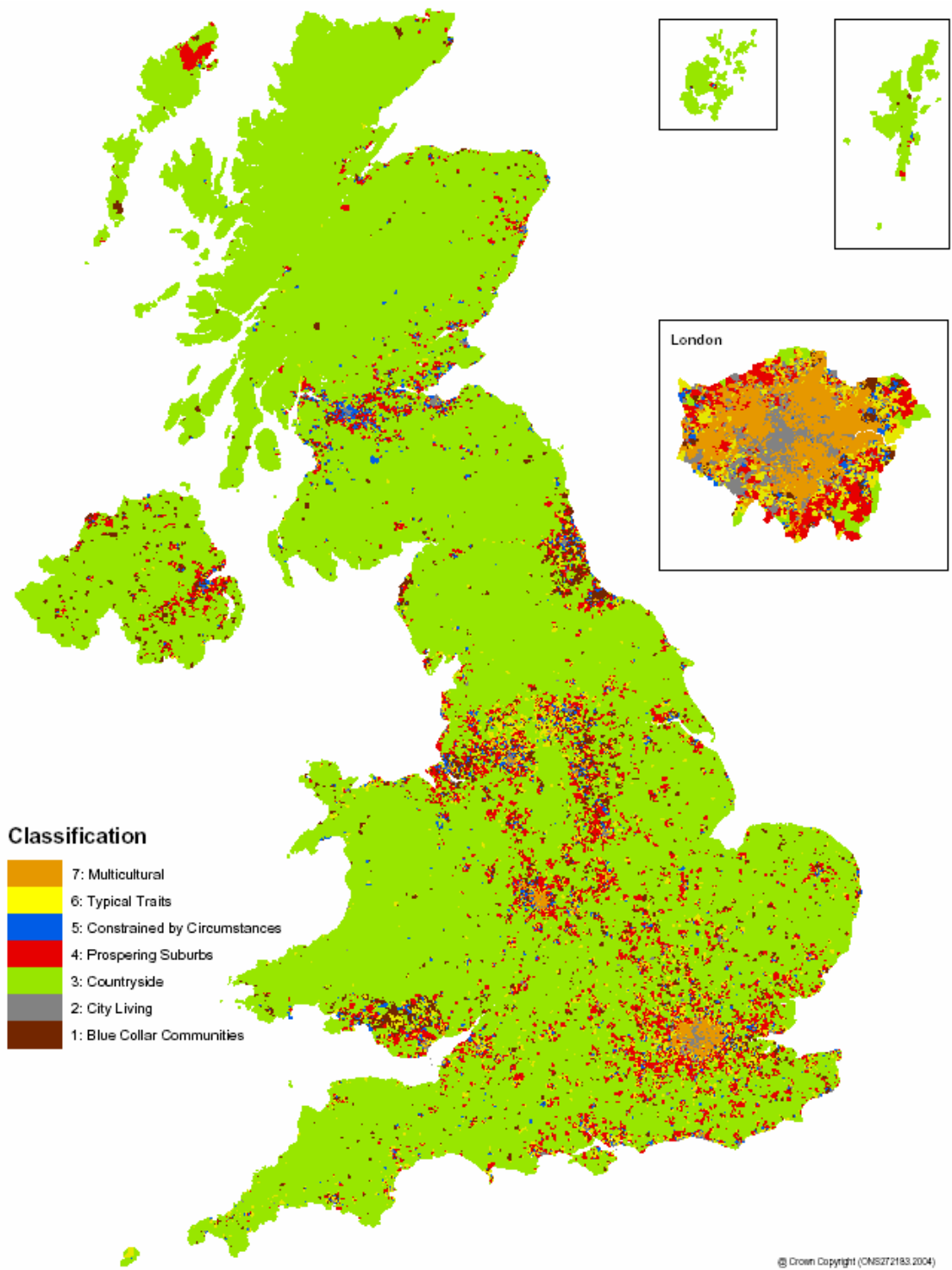
Once again many thanks, Dan Vickers and Phil Rees.

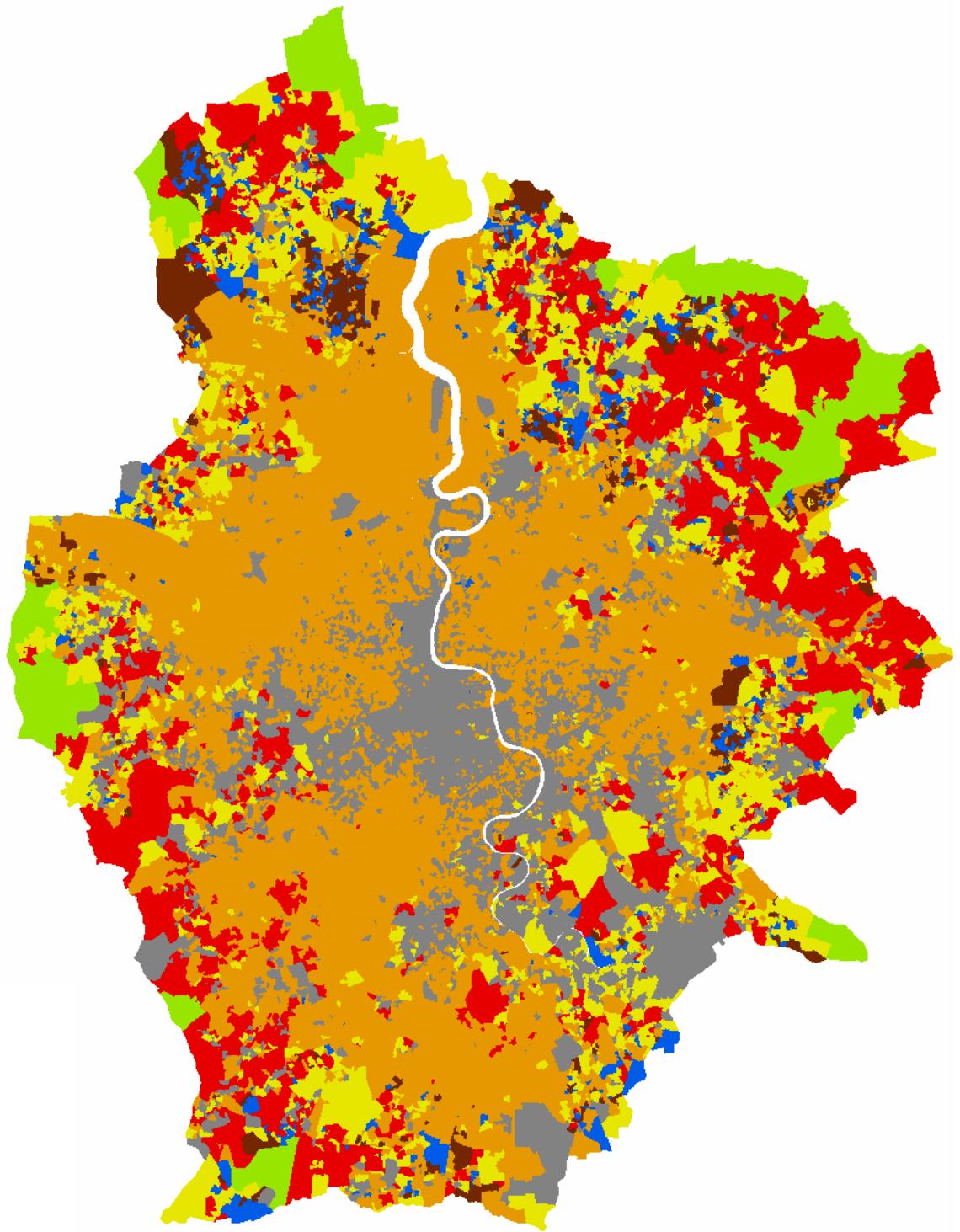
2	A
5	B
1	C
3	D
7	E
4	F
6	G

**Appendix D: Percentage of the population in each OA Classification cluster**

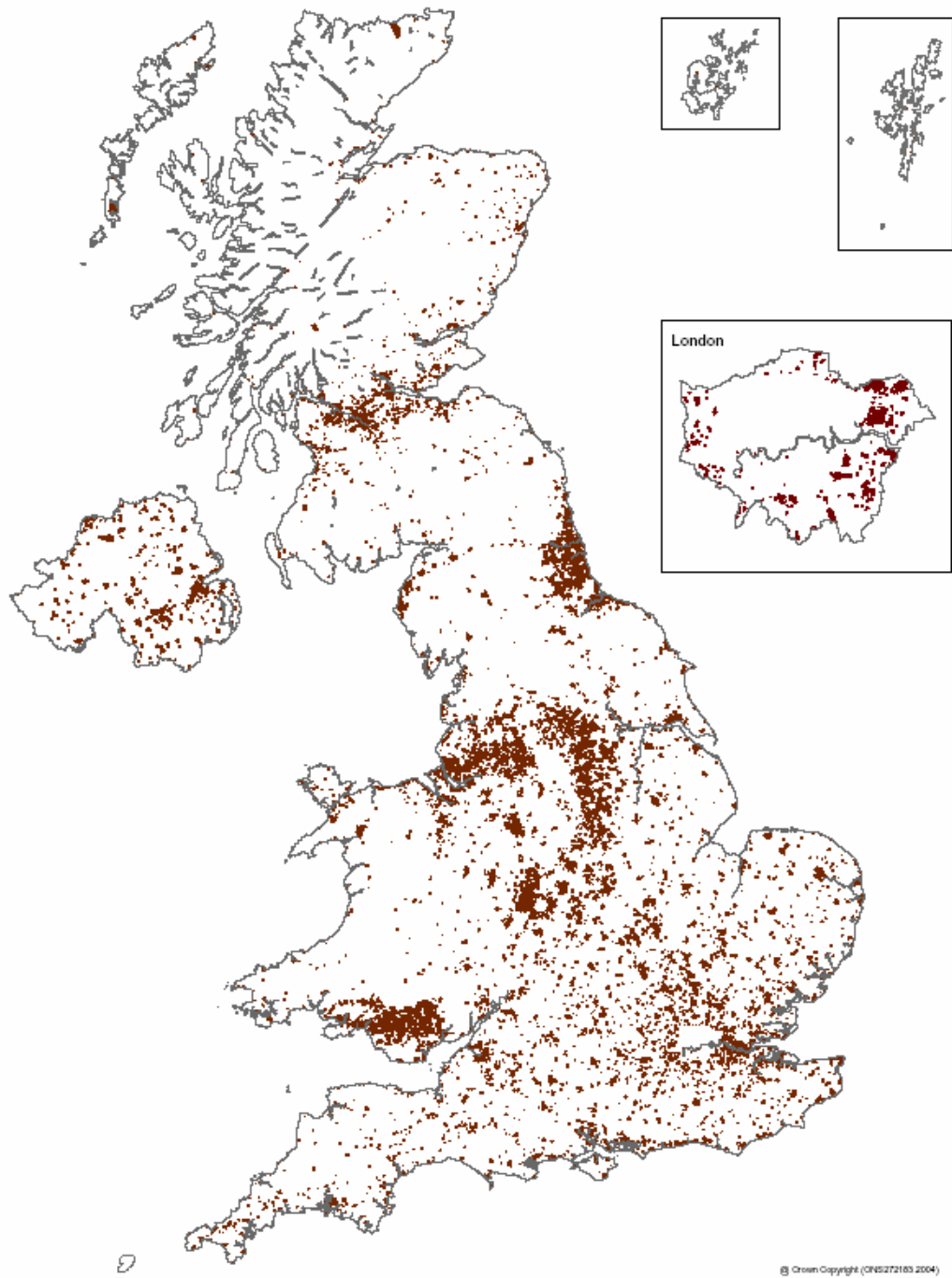
Super-group	Number of people	Percentage of population	Sub-group	Number of people	Percentage of population
1	9,821,208	16.71	1a1	955,118	1.62
2	3,600,180	6.12	1a2	685,585	1.17
3	7,322,791	12.46	1a3	778,908	1.32
4	13,554,639	23.06	1b1	2,294,829	3.90
5	6,415,412	10.91	1b2	1,659,663	2.82
6	11,340,048	19.29	1c1	1,459,827	2.48
7	6,734,916	11.46	1c2	676,783	1.15
			1c3	1,310,495	2.23
			2a1	529,291	0.90
			2a2	791,234	1.35
			2b1	872,334	1.48
			2b2	1,407,321	2.39
			3a1	1,526,779	2.60
			3a2	1,391,386	2.37
			3b1	1,077,826	1.83
			3b2	945,399	1.61
			3c1	1,364,567	2.32
			3c2	1,016,834	1.73
			4a1	998,566	1.70
			4a2	1,622,760	2.76
			4b1	993,812	1.69
			4b2	1,102,714	1.88
			4b3	928,224	1.58
			4b4	935,525	1.59
			4c1	1,315,737	2.24
			4c2	1,768,591	3.01
			4c3	1,089,477	1.85
			4d1	1,027,332	1.75
			4d2	1,771,901	3.01
			5a1	439,170	0.75
			5a2	244,431	0.42
			5b1	781,104	1.33
			5b2	854,672	1.45
			5b3	1,442,820	2.45
			5b4	975,636	1.66
			5c1	554,872	0.94
			5c2	384,698	0.65
			5c3	738,009	1.26
			6a1	1,924,248	3.27
			6a2	1,345,729	2.29
			6b1	737,910	1.26
			6b2	1,160,484	1.97
			6b3	1,121,861	1.91
			6c1	1,282,028	2.18
			6c2	1,318,053	2.24
			6d1	1,238,160	2.11
			6d2	1,211,575	2.06
			7a1	1,110,972	1.89
			7a2	1,259,329	2.14
			7a3	1,725,407	2.93
			7b1	1,593,959	2.71
			7b2	1,045,249	1.78

**Appendix E: Further maps of the OA Classification**

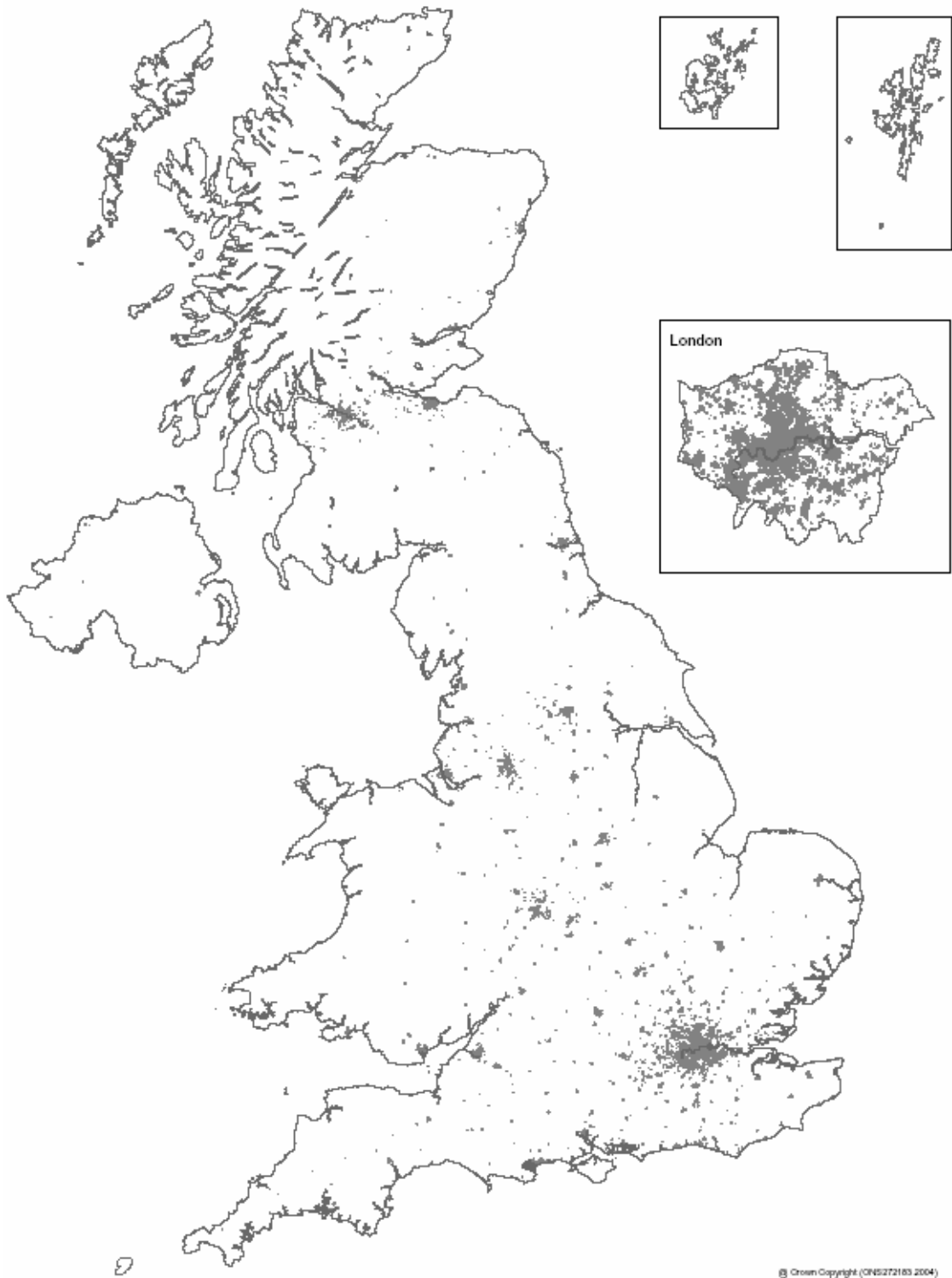




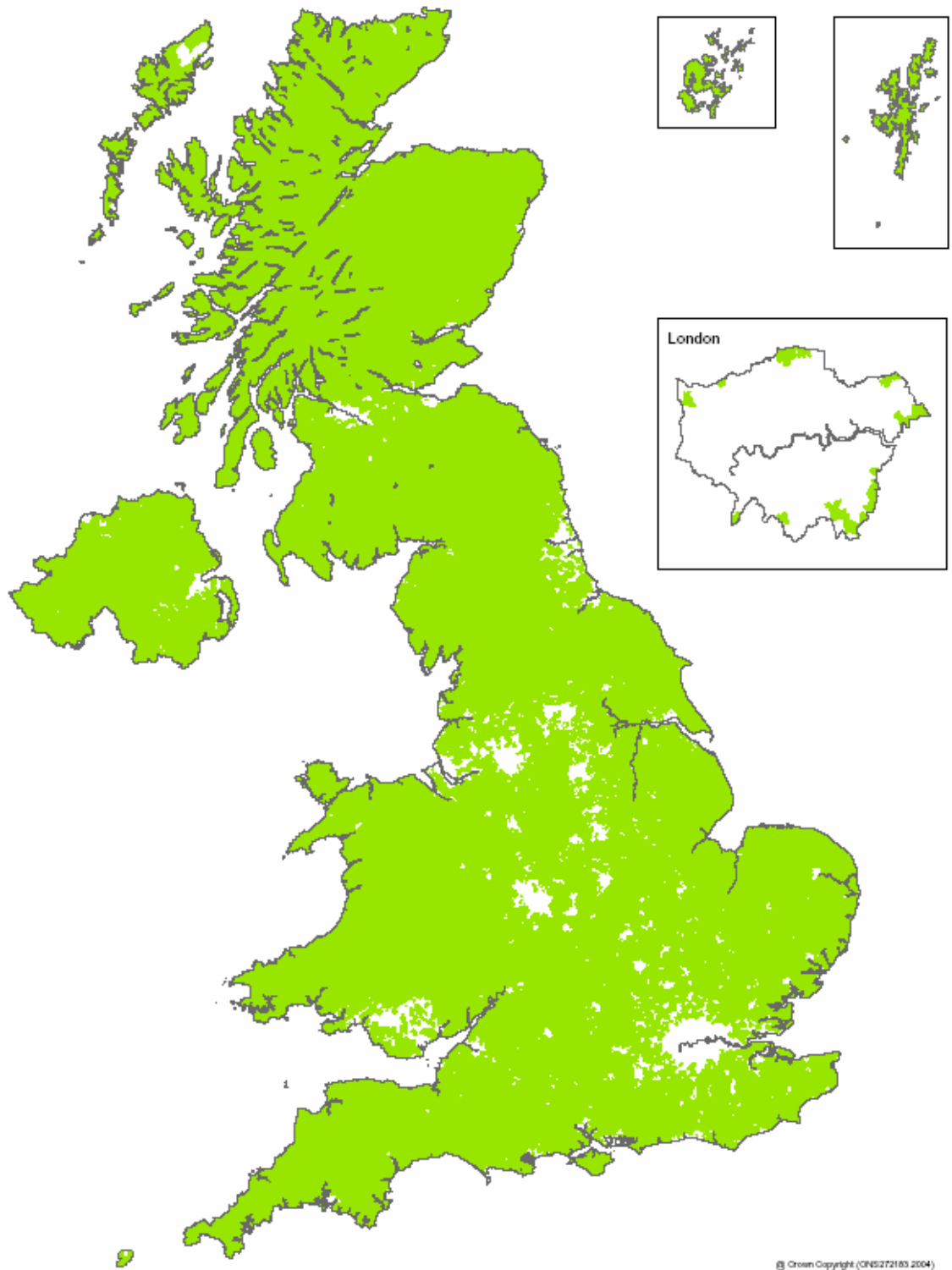
### Area Classification of Output Areas: Super-group 1 Blue Collar Communities



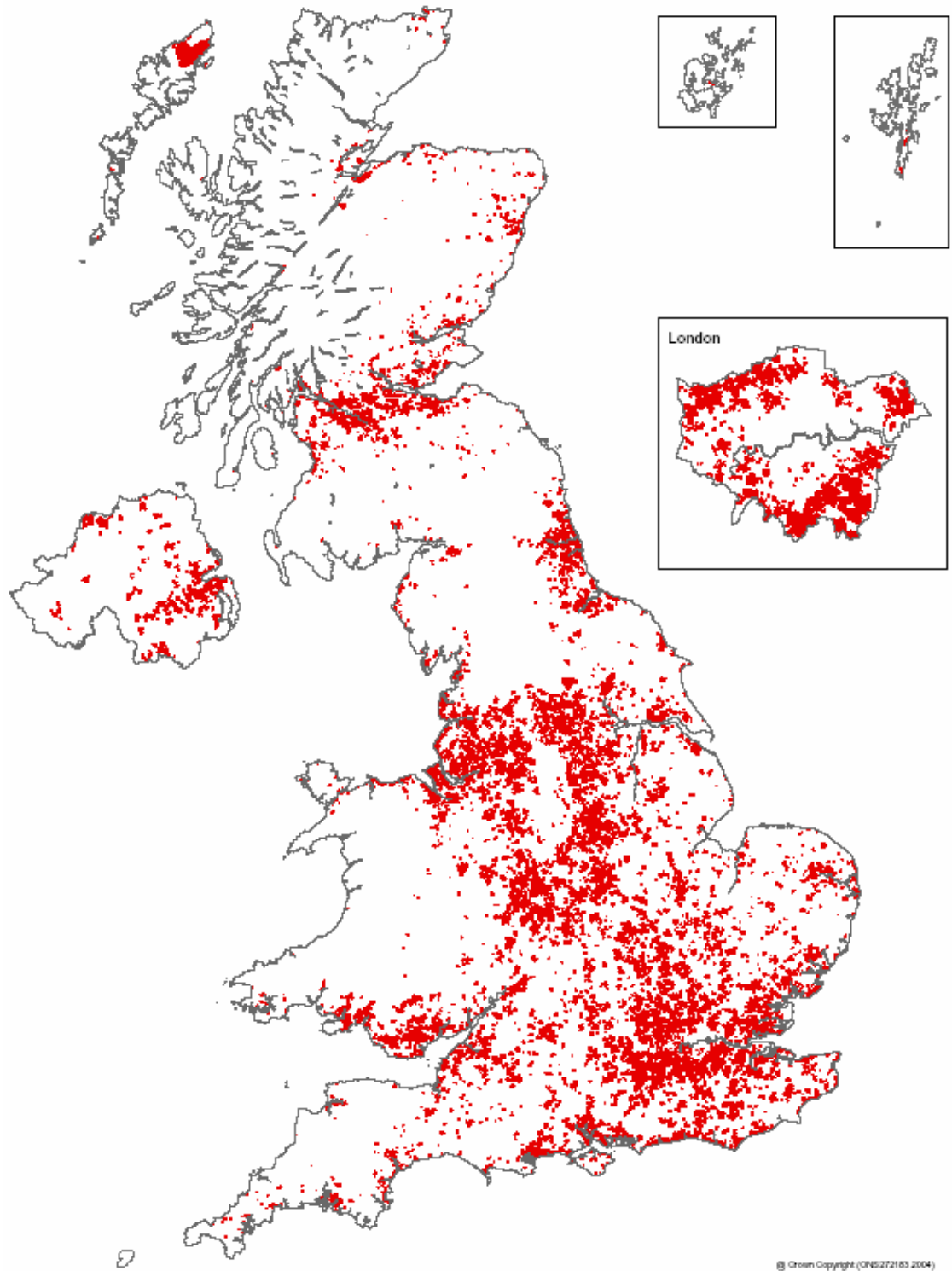
### Classification of Output Areas: Super-group 2 City Living



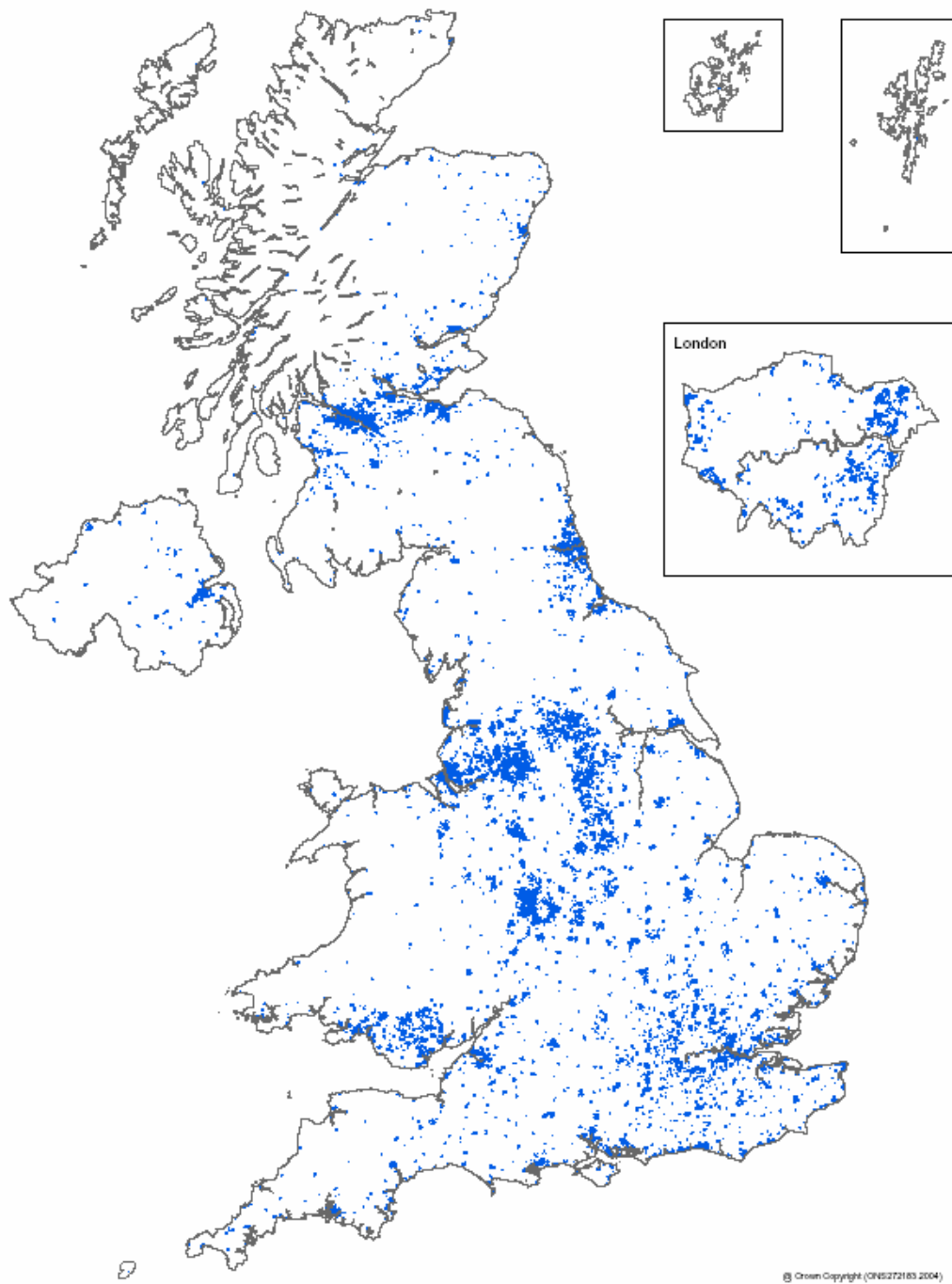
### Classification of Output Areas: Super-group 3 Countryside



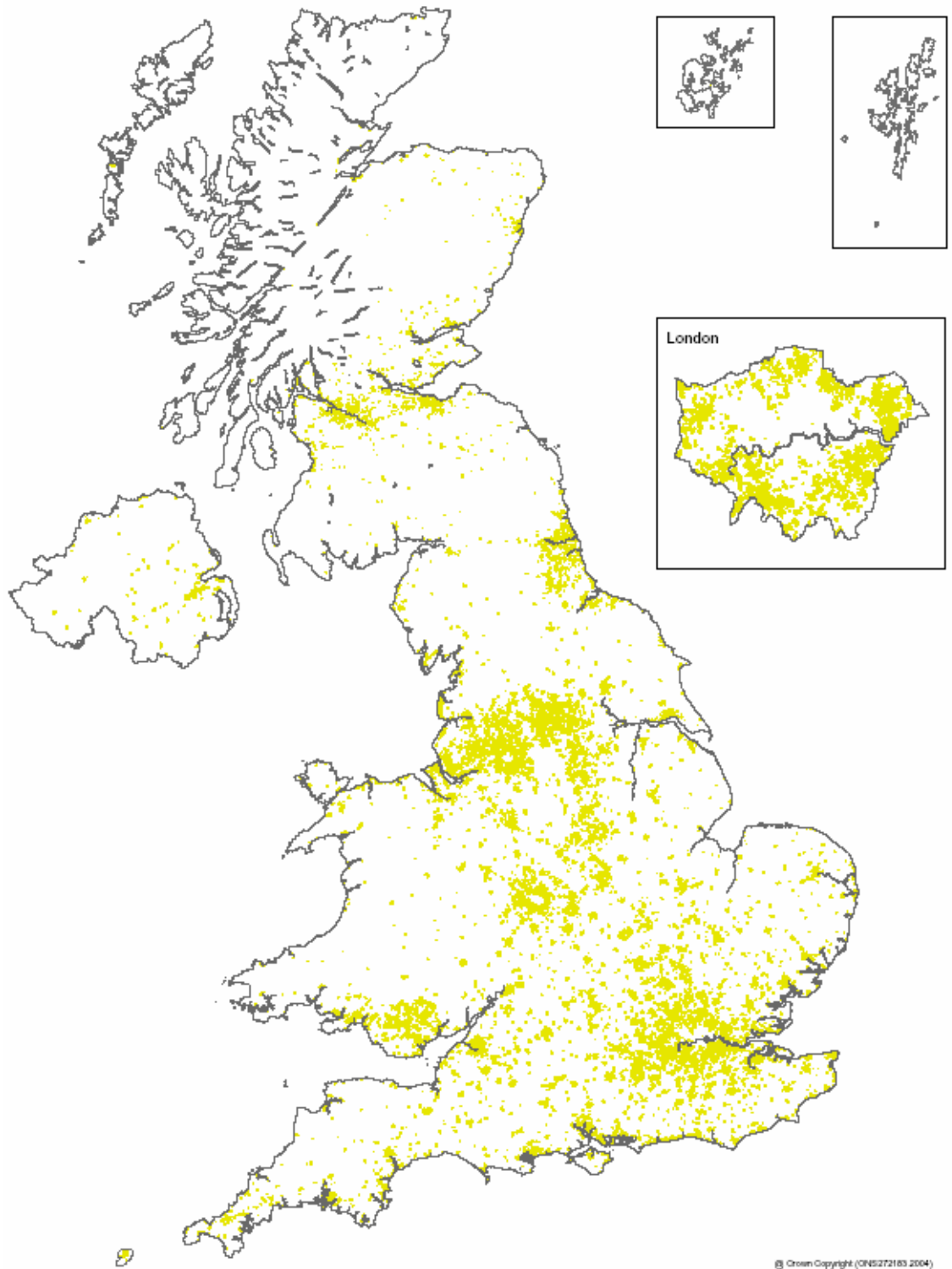
### Classification of Output Areas: Super-group 4 Prospering Suburbs



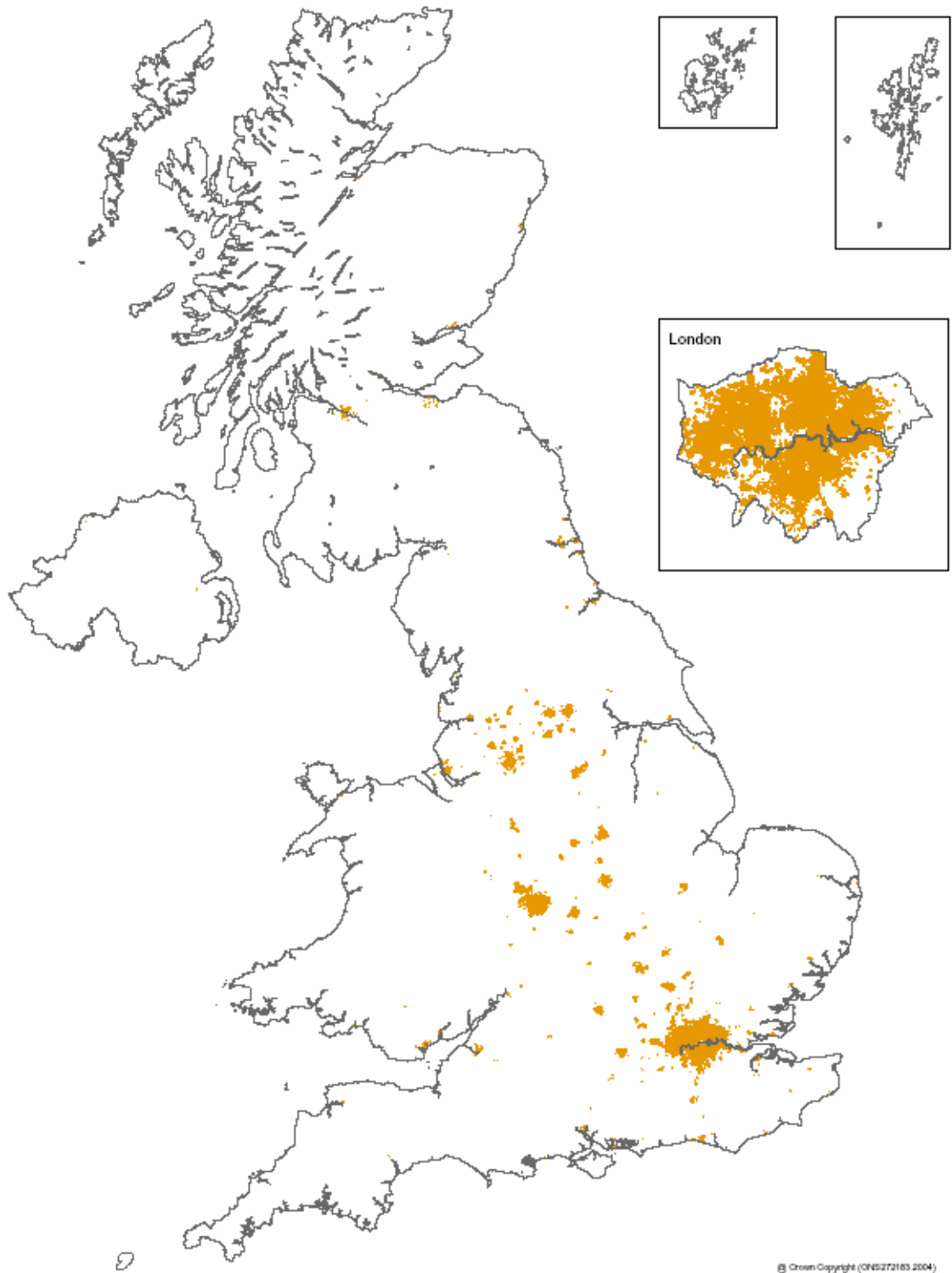
### Classification of Output Areas: Super-group 5 Constrained by Circumstances



### Classification of Output Areas: Super-group 6 Typical Traits



### Classification of Output Areas: Super-group 7 Multicultural



**Appendix F: OA Classification on CD**

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